NSVJ3910SB3

N-Channel JFET
–25V, 20 to 40mA, 40mS

ON Semiconductor®

www.onsemi.com

Automotive JFET designed for compact and efficient designs and including high gain performance. AEC-Q101 qualified JFET and PPAP capable suitable for automotive applications.

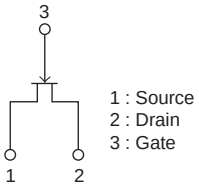
Features

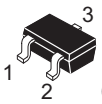
- High Forward Transfer Admittance
- High Breakdown Voltage
- Low Input Capacitance
- Low Noise Figure
- Pb-Free and RoHS compliance
- AEC-Q101 qualified and PPAP capable

Typical Applications

- Low Noise Amplifier for Automotive AM Radio

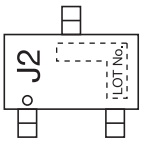
ELECTRICAL CONNECTION
N-Channel





CPH3

MARKING



ORDERING INFORMATION
See detailed ordering and shipping information on page 5 of this data sheet

SPECIFICATIONS
ABSOLUTE MAXIMUM RATINGS at Ta = 25°C (Note 1)

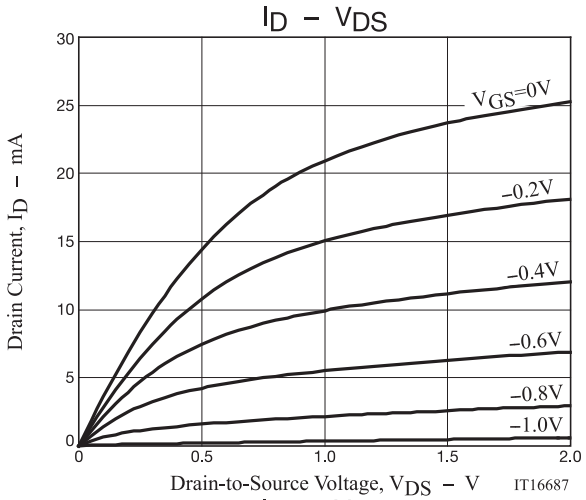
Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSX}	25	V
Gate-to-Drain Voltage	V_{GDS}	–25	V
Gate Current	I_G	10	mA
Drain Current	I_D	50	mA
Allowable Power Dissipation	P_D	400	mW
Operating Junction and Storage Temperature	T_J, T_{stg}	–55 to +150	°C

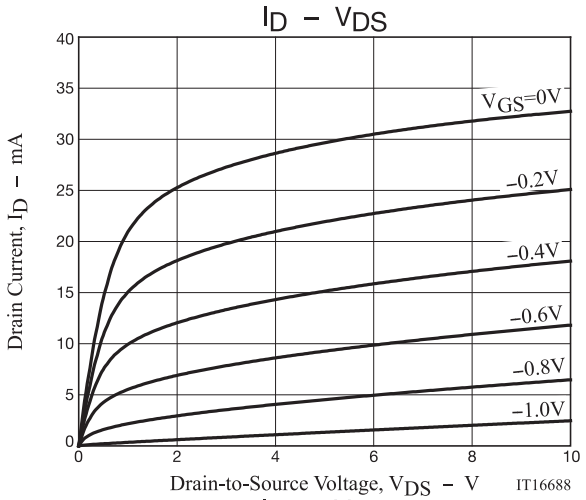
Note 1 : Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

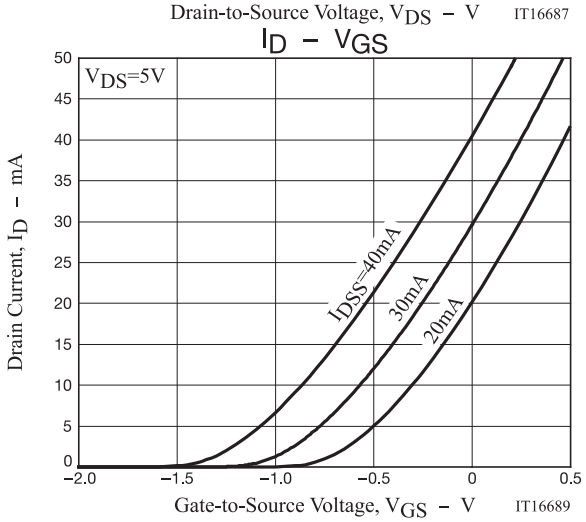
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 2)

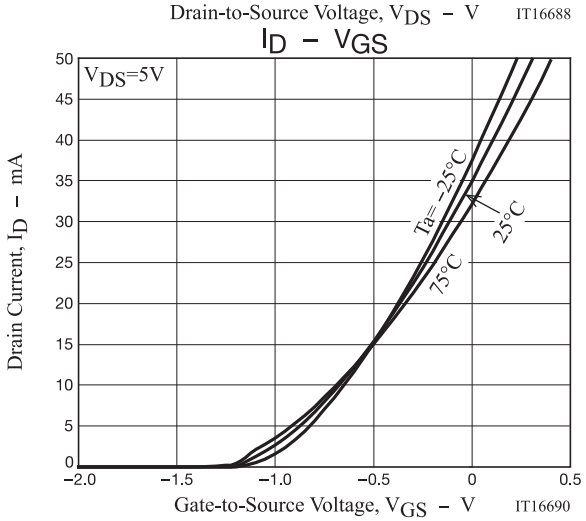
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G = −10μA, V_{DS} = 0V	−25			V
Gate Cutoff Current	I_{GSS}	V_{GS} = −10V, V_{DS} = 0V			−1.0	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS} = 5V, I_D = 100μA	−0.6	−1.2	−1.8	V
Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	20		40	mA
Forward Transfer Admittance	| yfs |	V_{DS} = 5V, V_{GS} = 0V, f = 1kHz	30	40		mS
Input Capacitance	Ciss	V_{DS} = 5V, V_{GS} = 0V, f = 1MHz		6.0		pF
Reverse Transfer Capacitance	Crss			2.3		pF
Noise Figure	NF	V_{DS} = 5V, V_{GS} = 0V f = 100MHz		2.1	2.8	dB

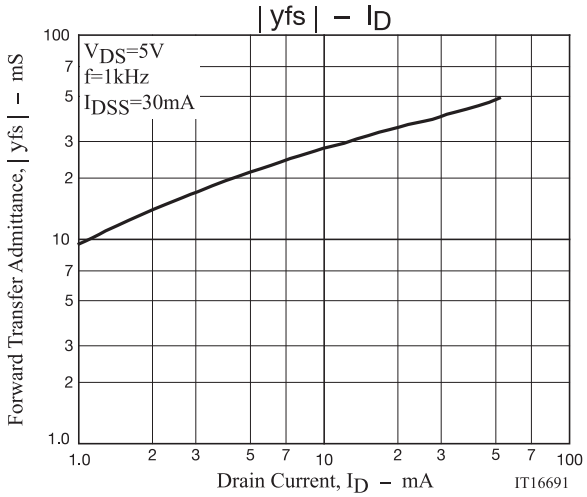
Note 2 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

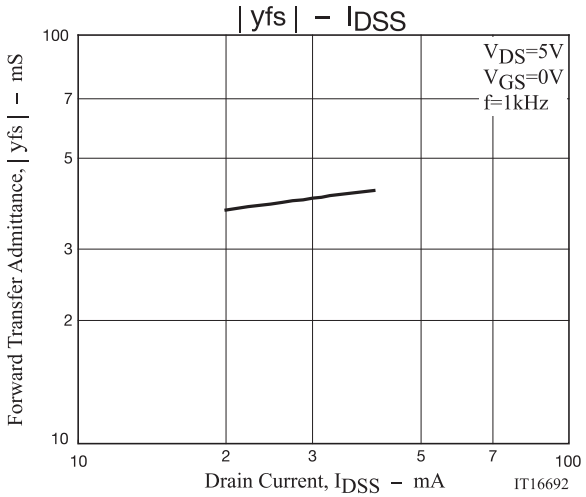


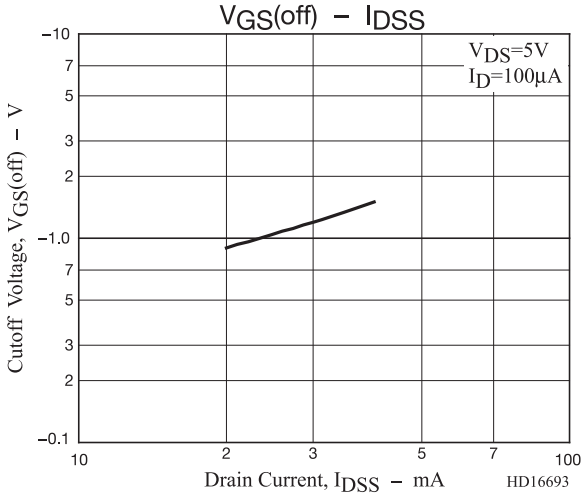


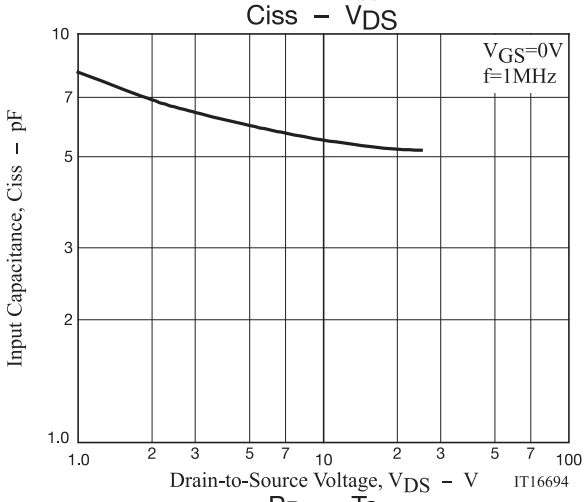


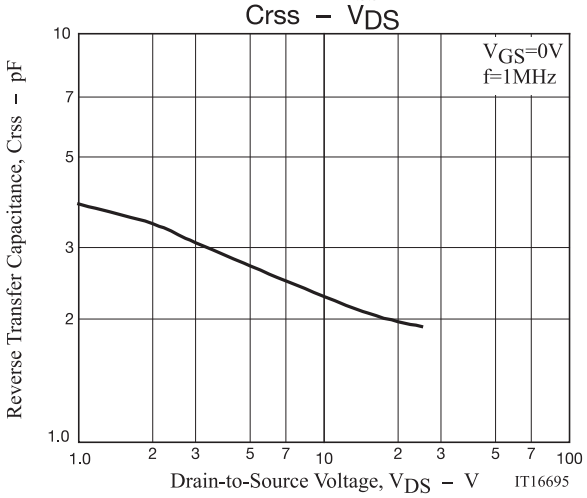


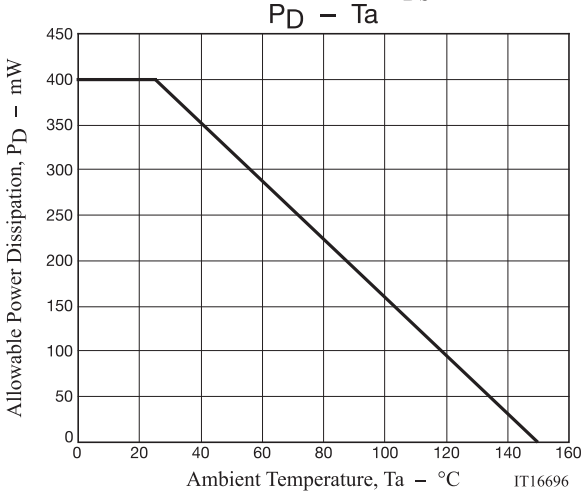

| yfs | – ID
VDS=5V
f=1kHz
IDSS=30mA
Forward Transfer Admittance, | yfs | – mS
Drain Current, ID – mA
IT16691


| yfs | – IDSS
VDS=5V
VGS=0V
f=1kHz
Forward Transfer Admittance, | yfs | – mS
Drain Current, IDSS – mA
IT16692


VGS(off) – IDSS
VDS=5V
ID=100µA
Cutoff Voltage, VGS(off) – V
Drain Current, IDSS – mA
HD16693

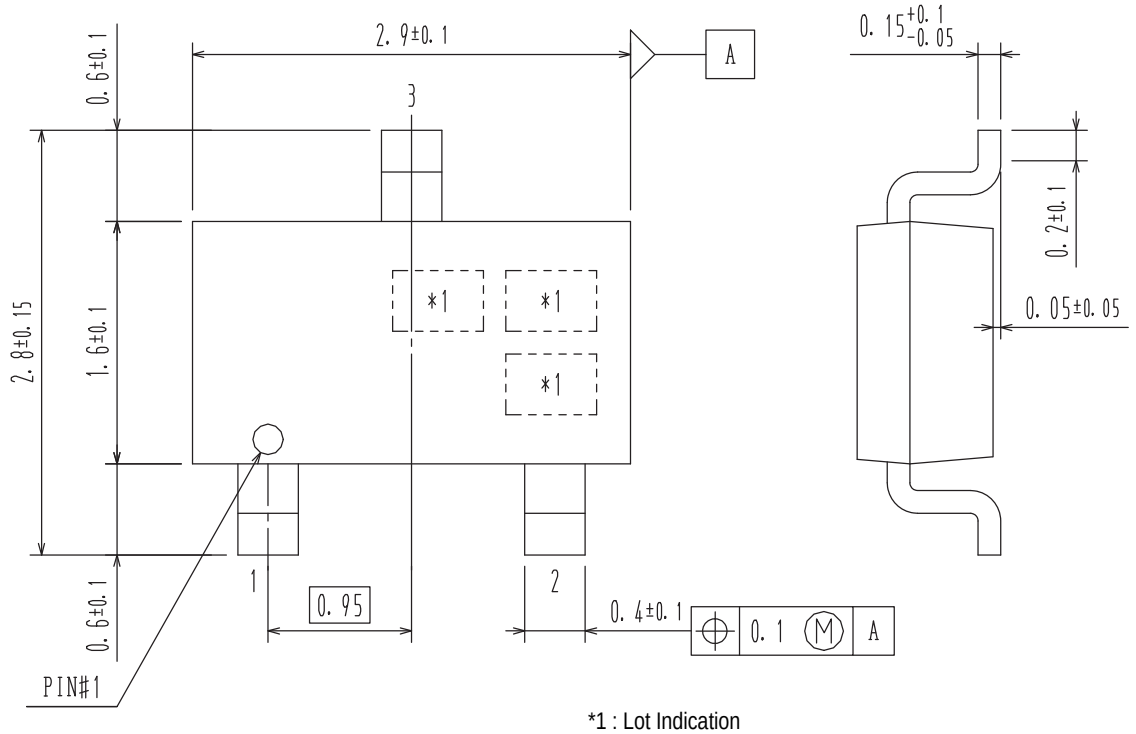

Ciss – VDS
VGS=0V
f=1MHz
Input Capacitance, Ciss – pF
Drain-to-Source Voltage, VDS – V
IT16694


Crss – VDS
VGS=0V
f=1MHz
Reverse Transfer Capacitance, Crss – pF
Drain-to-Source Voltage, VDS – V
IT16695

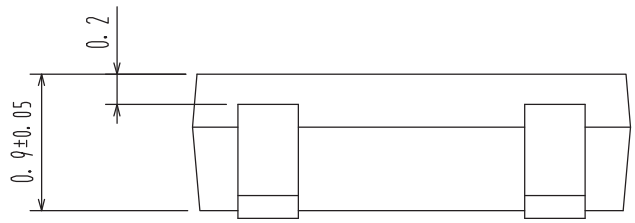

PD – Ta
Allowable Power Dissipation, PD – mW
Ambient Temperature, Ta – °C
IT16696

PACKAGE DIMENSIONS
unit : mm

CPH3
CASE 318BA
ISSUE O

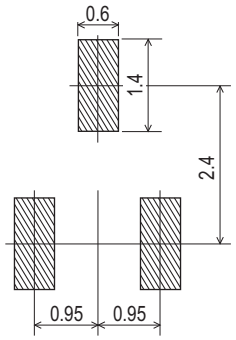


*1 : Lot Indication



1 : Source
2 : Drain
3 : Gate

RECOMMENDED SOLDERING FOOTPRINT



ORDERING INFORMATION

Device	Marking	Package	Shipping
NSVJ3910SB3T1G	J2	CPH3 (Pb-Free)	3,000 / Tape & Reel

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF

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